

## Abstract of the Disclosure

A flywheel uninterruptible power source has a charging system that uses a high frequency pulse width modulated inverter inside the motor drive with a very low frequency, line commutated converter that regulates by switching the alternating current from the utility power at frequencies under 200 Hz and 60 Hz. The placement of the motor power regulation switching is moved from the motor drive preferably to the input AC line current that provides power to charge the flywheel system. The switching is preferably done using natural commutation so that the devices are turned off when the current passes through zero for very low loss and device stresses. Preferable devices for switching include thyristors or triacs. The turn on switching can be accomplished using phase angle firing or in one embodiment zero cross over switching is employed to reduce harmonic distortion and radio frequency interference to the primary source.